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Transforming High School Teaching and Learning:

A District-wide Design

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Acknowledgements

Since 2000, the Aspen Institute Education and Society Program has identified new approaches for making the American high school a pathway to college and upwardly mobile careers for all students. Prior Aspen publications, including *Transforming the American High School: New Directions for State and Local Policy,* proposed state and local strategies for increasing the rigor of high school while promoting a variety of high school types and multiple pathways to post-secondary success.

This paper builds on earlier work and considers the question of how substantially to improve high school instruction. The paper is informed by discussions and work-team papers at a July 2005 Aspen Education and Society Workshop on this topic that brought together approximately 25 practitioners, researchers, grantmakers and policymakers. I am grateful for the input of all the participants, who are listed in Appendix A. In addition, a draft of this report was used in and strengthened by the December 2005 discussions at an Aspen Urban Superintendents Network meeting and at an Aspen Critical Friends group convened to support the Portland, Oregon School District's efforts to implement some of the reform strategies discussed here.

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Judy Wurtzel
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Overview

The data on high school student performance and graduation rates, particularly in high poverty urban and rural schools, make clear that significant increases in student attainment and achievement are necessary if all students are to graduate from high school fully prepared for post-secondary education, citizenship, and work. Much of the groundwork in high school reform to date has focused on organizational aspects of high school, particularly creating a wide variety of smaller schools, smaller learning communities, and alternative learning pathways to engage and meet the needs of young people. A premise of reformers is that personalization, relevance, rigor and improved instruction will occur most readily in smaller schools. However, experience is showing that size is a necessary but not sufficient condition. While smaller schools may create the relationships and conditions that make high quality instruction possible, improved instruction and achievement does not flow directly from them. (AIR/SRI 2004, AIR/SRI 2005)

Given this track record, questions facing the high school reform movement include:

- What will it take to get high school instructional improvement that results in demonstrated increases in student learning?
- What supports do high school teachers need to be successful in improving instruction and from where will they get them?
- What changes affecting the professional role, knowledge, and skills of teachers are needed if reforms are to be successful?

Significant improvements in student learning require real change at the heart of instruction: the interaction of students and teachers around the content to be learned. This paper suggests a set of design specifications for strengthening this interaction of student, teacher and content and increasing student performance across a school district.

These designs have six components. The first two focus on what the job of effective high school teaching looks like and on getting and keeping teachers who can do this job. They offer a new teacher "job description" that places accountability for results and the use and refinement of effective practices at the core of teaching and also suggest approaches for recruiting and retaining high school teachers who have the will and capacity to embrace this job description and increase student learning. The next four components describe an infrastructure for improving high school instruction that is consistent with this new job description, that provides the concrete supports needed to help new and veteran teachers know what and how to teach effectively, that enables teachers to elicit higher performance from their students, and that rests on a teacher-based system for continuously improving results.

These six components are:

1. A new vision of teacher professionalism that supports instructional improvement
2. A comprehensive strategy to attract and retain highly effective high school teachers
3. Clear expectations for high school instructional practices

4. Anchor standards and aligned assessments that support effective instruction
5. Core curriculum, common lessons and tools based on the anchor standards and assessments
6. A system to build teacher capacity

Most of the ideas here are not new. Some school districts and states have implemented elements. However, this paper attempts to lay out a fairly comprehensive picture of high school instructional reform and to push the conversation about high school instructional improvement into some new territory.

First, the paper builds on work done in many urban districts at the K- 8 level to create systems of "managed instruction," that is, deliberate efforts to align common curriculum and instructional materials, formative and benchmark assessments, extensive professional development, and instructional leaders who support a shared set of instructional practices. Most of the urban districts seeing significant gains at the elementary school level are using some form of managed instruction. (Snipes, Doolittle and Herlihy 2002; Council of Great City Schools 2004; Bill and Melinda Gates Foundation 2005). Moreover, at the high school level, the Advanced Placement and International Baccalaureate programs, available primarily for high performing students, have many characteristics of managed instruction. This paper considers with some specificity what an effective approach to managed instruction – in this paper termed "instructional infrastructure" – might look like if designed for all high school students.

Second, the paper suggests how these approaches can be developed and implemented in ways that are both consistent with and reinforcing of a robust vision of teacher professionalism. Based on the premise that teacher professionalism is fundamentally about individual and collective effort to improve student outcomes, this paper describes an infrastructure for improving high school instruction that is organized around teachers taking leadership in identifying and refining practices and tools demonstrated to improve student learning.

Third, the paper recognizes the urgency of attracting and retaining a teacher workforce that embraces this new job description for high school teachers and can effect improvements in student learning. The paper suggests how mobilizing an array of human resource strategies focused on accountability for results - including rigorous approaches to recruitment, hiring, induction, evaluation, and compensation - coupled with an infrastructure for improving instruction, will help districts build a highly effective workforce.

Of course, these design specifications do not fully address all of the elements critical to effective high school improvement. How to make students and student engagement central to instructional improvement, how to build the capacity of districts and outside partners to implement the strategies suggested here, how to improve the equity of access to human and financial resources within a district, how to develop and support effective high school principals, and how to build the public will to support and invest in instructional improvement are all central questions that this paper does not attempt to tackle.

Finally, it is useful to note that this paper focuses primarily on the district role in improving high school instruction. This is because it seems increasingly clear that school districts are a - if not the - key unit for instructional improvement at scale. However, much of what is described here could be initiated or supported by states, by consortia of districts, or by networks of managed schools within or across districts.

Design Components for a District-wide Effort to Transform High School Teaching and Learning

Component #1: A New Vision of Teacher Professionalism that Supports Instructional Improvement

Much of the work in any district-wide high school instructional improvement effort will focus, rightly, on the nuts and bolts of standards, curriculum, assessments, instructional tools, teacher learning, and human capital development. This paper first takes a step back to look at the culture of teaching, the context in which instructional improvement takes place and into which new teachers are recruited. Today, educators often define professionalism as freedom to make their own decisions about what, how, and sometimes even whom to teach. Yet the progress of high poverty districts and schools that are making gains in student achievement, at least at the elementary level, appears to be attributable, in part, to improvement strategies that constrain teacher autonomy - that prescribe standards, assessments, core curriculum, instructional materials and techniques, and tightly aligned professional development. This approach is seen by some as "teacher proofing" and sparks complaints that talented teachers are leaving the classroom because they are not treated as professionals.

How can the profession navigate the terrain between teacher autonomy and tight prescription? If the teaching profession and teachers' concept of professionalism were organized around improving instruction and student achievement, what would the principle tenets of teacher professionalism be? What would be tightly prescribed, what would be left to professional judgment, and how would professional judgment be effectively exercised?

This paper suggests a definition of educator professionalism that supports instructional improvement. This definition is based on well-established ideas of educator professionalism but also draws from other professions, as well as beliefs about what teacher professionalism can and should be.

Elements of Professionalism

Looking at common elements of professionalism across sectors, there are at least seven elements:

First, a professional owes her *primary duty to her clients*. In the case of educators, this means a primary duty to students.

Second, professionals are *accountable to the profession for results.* At the grossest level of accountability, each profession has a definition of malpractice and the profession itself has standards and procedures for sanctioning and ultimately ejecting from the profession those who commit malpractice.

Third, in each profession there exists *a body of specialized knowledge and agreed upon standards of practice and specific protocols for performance.* These standards of practice and protocols generally have a causal relationship to client outcomes. Thus, these norms and protocols are based on either evidence about effectiveness in improving results for clients or, in areas where evidence is either unclear or not dispositive, codified agreement by the profession about practices and protocols most likely to benefit clients.

Fourth, a professional has a *duty to improve her own practice.* Thus, professionals receive

initial training in the specialized knowledge of their field and then are expected continuously to improve their own practice so that they become more expert practitioners and remain up-to-date in the advancements of their field.

Fifth, a professional has a *duty to improve common or collective practice* in the profession. For example, in medicine, hospital deaths trigger a morbidity/mortality conference where the staff responsible for the patient and others in the hospital meet to determine whether professional protocols were followed, how to improve adherence to protocols, and whether the protocols should be reconsidered in light of new evidence.

Sixth, professionals are expected to *exercise professional judgment.* While professional practice is governed by standards and protocols, professions require professionals to consider the specific characteristics and needs of their clients.

Seventh, professionals whose practice involves human improvement (therapists, social workers, teachers, doctors) *must seek to foster productive client behaviors that lead to successful outcomes.* They cannot mandate compliance, except under extraordinary circumstances, but must develop relationships and work with clients to ensure compliance.

These definitional elements suggest that professions are not laissez-faire in either the duties or obligations they assign to professionals or the standards of practice to which professionals adhere. At the same time, professionals are not automatons who blindly follow professional rules. They exercise their own professional judgment and at the same time seek to improve their practice for the benefit of their clients and profession.

Implications for Practice

In what situations should professional duties, obligations, standards and specific protocols be tightly prescribed, and when should they be looser to provide significant latitude for professional judgment or experimentation? The key elements of professionalism above suggest that professions must be demanding and specific regarding duty to clients and accountability for client outcomes. But what about specific practices such as how to perform an operation or how to teach phonemic awareness? When is it appropriate to tightly define the practices of professionals and when is it not?

In general, professional practice should be more tightly prescribed when:

- *There is clear evidence about what practices lead to good outcomes for clients.*
- *There is a substantial knowledge base about more and less effective practices.*
- *The professional is less expert.* Those who are new to the profession should be granted less room for professional judgment than those who have been in the profession and gained experience and mastery and/or advanced certification.
- *Consistency matters.* For example, if many separate professionals and processes are responsible for the ultimate outcomes for the client, often it is essential that professionals abide by shared standards and protocols to ensure the best client outcomes.
- *Outcomes are poor.* In contexts where client outcomes are particularly bad, professionals should be expected to tightly follow professional norms and protocols whenever they exist in an attempt to improve outcomes.

- *Client risk is high*. When the risk to clients is high - say cardiac surgery or reading instruction - the necessity of following standard practices is greater than where risk is low - say athlete's foot or violin instruction - where idiosyncratic practice may be acceptable.

Conversely, practice may be less tightly prescribed when:

- *The evidence and knowledge base about what works is less clear.*
- *The professional has more experience and expertise* to inform his or her professional judgment.
- *Consistency is less important.*
- *Outcomes are strong.*
- *Client risk is low.*
- *The context of practice is particularly uncertain or problematic.* For example, the context of practice may render standard practices less effective than they might usually be or make standard practices impractical, thereby supporting the development of new standards for these contexts.

However, even when practice is less tightly prescribed, idiosyncratic and laissez-faire practice is not the standard. Because professionals have a responsibility to improve their own work and the collective work of the profession - all in the aim of improving client outcomes - professionals should be engaged in planned inquiry, research and evaluation to continually improve their own and the profession's knowledge and use of effective practices. Thus, professionals should be expected to engage in organized efforts to initiate, implement and evaluate new approaches and to share their own effective practices with others.

In this definition of professionalism, following agreed upon standards of practice and specific protocols is not demeaning or limiting, rather, it is an essential element of being a professional and improving both outcomes for clients and individual and collective practice. It sees common practices not as limiting but as necessary to building the profession.

A New Vision of Teacher Professionalism

What does teacher professionalism look like if it is organized around these ideas about the nature of professionalism?

In this vision of teacher professionalism, teachers identify their students as their primary clients and are accountable for increasing student performance. The profession identifies and prepares its members in the knowledge, skills, and standards of practice that are most likely to lead to increased student learning. At the same time, the profession holds its members accountable and will discipline or eject from the profession those who are unable to improve student learning.

In this vision, fostering productive student behavior is central to teachers' professional duty. Teachers cannot force students to do their homework and learn. However, teachers are responsible for using their relationship with students and school structure to develop productive student behaviors.

In this vision, teachers exercise professional judgment about how to carry out their teaching each day in order to achieve the best possible learning outcomes for their students. In exercising professional judgment, teachers base their decisions on evidence about what works for students in general as well as for the particular students in their classroom that year. Where evidence is not compelling,

teachers work in their own classrooms and with others to test out and evaluate the effectiveness of practices in improving student outcomes. When student performance is weak in essential building blocks of learning or where student mobility is high, teachers are particularly rigorous about using agreed upon practices and protocols to accelerate learning and ensure consistency for students.

In this vision, teachers have a duty to improve their own practice - which means that participation in professional development, coaching, classroom observation and continued learning is an essential part of the teaching job, not an optional activity. "Going public" with student learning data and classroom practice is a core value that teachers share and incorporate into their own practice and their work with other teachers.

In this vision, teachers also have a duty to improve common practice, which includes working with other teachers in an effort to learn from them, to help them learn, and to contribute to the collective knowledge about what works for students. In addition, the profession has a duty to organize itself in ways that better enable educators to develop, refine, apply and share knowledge of effective practices.

In this vision, teachers' commitment to improving student outcomes and their individual and collective practice positions them as central actors in developing the school and district-wide infrastructure for instructional improvement. Teachers serve as developers and evaluators of their tools of practice – curriculum, assessment, lesson plans, professional development – and feed a school-wide, district-wide and profession-wide effort to increase knowledge and improve practice. Teacher autonomy is not a value or goal in itself. Instead, it is a resource for improvement. Autonomy, when strategically deployed within the context of professional practice, creates the opportunity for innovation, improvement, empowerment and commitment.

What steps would a district take to create the culture, capacity and systems necessary to turn this rhetoric about teacher professionalism into a culture and infrastructure for real instructional improvement in classrooms? How would it attract, support, retain, motivate and empower a teacher workforce that embraces this new definition of the teaching profession? And, how would it do this in high schools where notions of teacher independence and allegiance to department and discipline are so entrenched? The following five design components are a beginning attempt to answer those questions.

Component #2: A Comprehensive Strategy to Attract and Retain Highly Effective High School Teachers

Given the picture of teacher professionalism sketched here, some teachers would say, "That is not the job I was prepared and hired to do." They would be right - this new vision for improving results for students creates new expectations and accountability for teachers and their work. Many teachers may already aspire to this new vision of professionalism and instructional improvement and embrace it; many may come to endorse it if they find it helps them be more effective in the classroom; some will reject it.

While it is essential to invest in and support current teachers who have the will and capacity to improve student learning, districts should also direct significant resources to securing an effective pipeline for a next generation of teachers equipped for this new teaching job.

Schools are human resource intensive organizations and the bulk of school spending goes towards salary and benefits. In many urban districts, over 10 percent of the teacher workforce leaves annually. Given this investment and turnover, an intense focus on hiring the best teachers possible and creating supports, evaluation systems, career ladders and compensation systems to reward and retain effective teachers can over just a few years radically change the quality of a high percentage of a district's workforce. Equally important, such focus can move changes in district culture and conceptions of teacher professionalism to the "tipping point." This section points to high-leverage strategies for tackling this challenge.

Recruit aggressively and then hire selectively.

It is a given that urban districts seek to hire talented new high school teachers who are experts in their content area, who have at least a novice competency in the district's standards and instructional goals, the use of data to inform instruction, and effective methods for working with the high school population in the district, and who want to be accountable professionals committed to improving their practice in the context of urban schools. However, it is also a given that very few newly minted teachers, regardless of the route by which they enter teaching, possess this ideal set of attributes.

Creating an aura of selectivity will help districts attract the highest performing candidates. This necessitates a very large applicant pool, so that teaching positions become sought after and a stringent selection model can yield the highest number of potential candidates. In order to ensure that there is a large enough pool of high quality candidates, a district should aggressively identify and recruit from a variety of sources – including well-prepared graduates of teacher preparation programs, mid-career professionals with significant work experience and strong content knowledge, promising non-education majors through programs like Teach For America, and high performing veteran teachers from outside the system, including those not currently teaching. With a larger pool, a district can then limit employment offers only to candidates who meet rigorous entry requirements.

Accountability for the human resources department is one strategy for changing what are sometimes perceived as intractable hiring problems. Concrete targets such as the number of applications received per vacancy, the quality of applicant pool and hired teachers, the timeline on which school level placements are offered and accepted, and principal and applicant customer service surveys should determine the evaluation and ongoing employment of human resources staff.

Invest in Induction

Regardless of their route to the classroom, new teachers do not enter equipped with all the necessary tools to be successful in increasing student achievement. Induction is a critical lever for ensuring that new teachers develop clarity about expectations for students and for teachers, ascribe to professional norms and school culture, become competent with the instructional strategies and tools used in the school and district, and learn to address the specific instructional challenges posed by their students. The experience of districts implementing induction programs suggests the desirability of the following elements for all new teachers over a three year period: enculturation in desired district and school norms; inclusion in on-going professional develop-

ment; expert mentoring in their content area; training in areas that pose specific difficulty for new teachers; and reasonable class loads that make all else in this list possible.

More specifically, if a district is attempting to create the professional culture and instructional infrastructure described in these design components, it is essential to induct new teachers into this culture and to introduce them to these new ideas of how a professional relies on an instructional infrastructure informed by evidence of effectiveness. The infrastructure for supporting instructional improvement sketched out in Components #3 through #6 – clear expectations for instructional practice, anchor standards and aligned assessments, and a core curriculum and common lessons and tools – are equally important for new teachers as for existing teachers. Every teacher, no matter how smart, energetic or well-prepared, can benefit from (and, hopefully, contribute to) this shared platform for individual and collective improvement of practice and achievement. Incoming teachers, who have not yet solidified their professional habits, may be early adopters of these views and advocates for them within schools. The design and content of a formal induction program should be crafted with this in mind.

New teachers should be integrated into on-going instructional improvement and professional development activities focused on common content and shared teaching challenges, such as those described under Components #5 and #6 below. By participating in this work from the first days on the job, new teachers see that working with colleagues around improving practice is an essential element of the teaching job.

In addition, each new high school teacher should have a trained mentor *who teaches in his or her discipline.* This is essential for mathematics and English/Language Arts teachers and important for all. Mentors should have a reasonable number of mentees so they observe, advise, and team teach with each new teacher at least several times a week. The interaction between the new teacher and the mentor should focus on improving instruction, particularly increasing engagement, alignment and rigor in the common lessons and common student tasks that ground the district's improvement efforts. Mentors should be chosen based on their effectiveness in the classroom, knowledge of content pedagogy and ability to facilitate adult learning and should be specifically trained in how to effectively support new teachers.

New teachers often will need early and ongoing training in key areas where they are particularly under-prepared. For many new teachers, content pedagogy, classroom management, and use of student assessment data to improve instruction are critical areas of need.

To support the development of confidence and expertise, and to provide the time needed for these induction supports, new teachers must have a reasonable teaching load. Ideally, new teachers would split their time between classes they teach on their own with the support of a mentor, classes they team teach with the mentor, and specialized training for new teachers. Over three years, new teachers would transition into a full time teaching load. For example, in year one, new teachers might team teach two of their classes with their mentors, and in year two team teach one class with their mentors. In the third year they might continue to plan with their mentors but no longer team-teach. Teachers and mentors would have common planning time during school day. Regardless of whether a reduced

course load is attained, new teachers should never be assigned the hardest to teach classes or a large number of class preparations.

Finally, induction programs should be regularly evaluated regarding their success on two basic criteria: whether teachers' participation is associated with improved outcomes for their students and whether participation increases the retention of teachers who are most effective in improving student outcomes.

Offer tenure only to teachers who demonstrate effectiveness

Even if districts recruit aggressively, hire selectively, and support new teachers intensively, not until a teacher has a track record in the classroom is it possible to know whether a teacher is effective in attaining gains in student achievement. Thus, a key to workforce quality is rigorous evaluation of teachers in their initial years of teaching. At the end of the teacher's provisional contract (usually three years), districts should attempt the discipline of offering on-going employment only to teachers with demonstrated effectiveness in producing student learning gains.

There are many factors that make it difficult for districts to attain this discipline. Among them is the fact that highly accurate measures of teacher effectiveness do not exist. While value-added modeling has great potential to identify the effectiveness of individual teachers in boosting student achievement, research suggests that value-added models are not yet sufficiently accurate to be used for teacher accountability. (McCaffrey and Koretz, 2004) Moreover, the types of annual standardized assessments needed to generate value-added modeling often do not exist at the high school level. Teachers, not surprisingly, are skeptical of using either value-added models or test scores as the sole determinate of evaluation and tenure decisions. Second, the primary tool for evaluation, principal observation, can be subjective and based on limited "snapshots" of teaching. On the other side of the equation, a negative evaluation even of a non-tenured teacher can immerse the principal in time-consuming documentation and review processes. Moreover, the challenge and cost of recruiting, hiring and inducting quality candidates is so daunting that principals and central office staff are often loath to dismiss a borderline teacher when they know that the ensuing vacancy will be difficult to fill.

Despite these challenges, districts abdicate responsibility for the overall effectiveness of their workforce – and teachers lose the promise of membership in a profession grounded in improving instruction and achievement – if districts fail to establish a fair but high bar for offering on-going employment. While working with the research community to develop and validate more robust and accurate measures of new teacher effectiveness, districts can currently develop reasonable procedures for tenure decisions. These procedures should have clear expectations about teacher performance and require evidence from a range of sources, including student achievement data and principal observation. When coupled with objective measures of student achievement, observations from mentors or coaches, as is used in some peer assistance and review systems, can be particularly powerful. At the high school level, mentors and coaches are often more likely than a high school principal to regularly observe the new teacher, understand the content standards and lessons to be taught, and be able to gauge the new teacher's ability to improve instruction based on feedback and support. (Goldstein and Noguera, 2006)

Districts can make it more likely that there will be high standards in the tenure decision process by providing clear guidance about the evidence to be considered and the level of teacher proficiency expected in evaluations, training for principals and others in how to coach and evaluate around performance, extra support from central office staff in conducting and documenting effective evaluations, and a responsive human resources staff who will aid principals in filling vacancies quickly if a weak teacher is not renewed.

Create career ladders and compensation systems to retain highly effective teachers

High achieving individuals want to know that there are adequate opportunities for advancement within their careers. Elements of a career ladder that seem likely to meet those needs include opportunities for teachers to stay in the classroom but also assume increasing levels of responsibility within their schools (and the district), positions that are school-based but are focused on providing instructional leadership and support to all teachers, and pathways to principal positions for strong teachers who also have aptitude and skills in management, operations, and finance. The instructional infrastructure described in Components 3 to 6 depends, in part, on well-constructed career ladders since it depends heavily on teacher leadership in designing, evaluating, and improving instructional tools and practices.

High-achieving individuals also want to be held accountable and rewarded for their successes. Differentiated pay can be one element of a larger set of incentives for professional performance in the classroom. There are a variety of approaches to configuring differentiated pay regimes – awards to entire school staffs, to teams of teachers, and to individuals. Some incentive systems are based on student performance (standardized test scores, value added modeling, or a broader array of student performance data), some on teacher performance (e.g., demonstrating increased knowledge or skills), and some on a combination of both. There is no hard evidence yet demonstrating which approaches most effectively create the right mix of incentives for productive behaviors by individual teachers, school staffs and principals that lead to increased student learning. However, if increasing student achievement is the core value of our schools and the teaching profession, at least some portion of differentiated pay determinations should be based on student performance. The increasing proliferation of varying types of differentiated pay initiatives provides an important opportunity for careful research on how to craft the mix of incentives in ways that motivate and reward effective practices.

One particularly important element of differentiated pay concerns low-performing schools. These schools tend to have difficulty attracting qualified applicants and their teachers rapidly leave for schools with fewer poor and minority students, leaving the schools to refill the slot with another inexperienced or unqualified teacher. It is the most accomplished teachers who should be encouraged to teach in the lowest performing schools. High standards should be set for who can teach in these schools, and then these teachers should be compensated in a way that makes these positions highly sought after by teachers likely to be effective in these position.

While all teachers willing to teach in a high-poverty, low-performing school should initially get increased compensation, over time those increments should become contingent

on demonstrated effectiveness – not just "combat pay" for walking into the classroom. For example, in a high-poverty school embarking on major restructuring and new staffing, the base pay of the teachers might be raised significantly - perhaps by 45 percent - with a bonus potential based on student achievement of 5 percent. This structure would be flipped over the course of a five-year plan so that eventually 45 percent of teachers' salaries would be available in performance-based bonus and 5 percent in base pay. This model would allow the district to maintain salary increases only if student achievement goals are met. Of course, increased compensation alone will not be sufficient to attract or retain the teachers in these schools. Compensation needs to be part of a comprehensive approach that addresses principal leadership, working conditions and additional supports for the students in the school.

Component #3: Clear Expectations for High School Instructional Practice

Thus far, this paper has sketched a vision of teacher professionalism grounded in individual and collective responsibility for improving instructional practices and student outcomes based on evidence of effectiveness. It has also suggested strategies for recruiting and retaining highly capable people who embrace and can deliver on the vision. While these are essential ingredients to transforming high school teaching and learning, they are not sufficient.

Prior efforts to reform high schools have failed, in part, because teachers have either been left too much on their own to do the difficult work of developing curriculum, assessments and other tools to improve instruction, or the district has taken a top-down, prescriptive approach that has been met with resistance by teachers and principals. This paper suggests that the district creates the framework and tools for instructional improvement while promoting a culture of teacher professionalism and expertise that makes teachers central actors in shaping and carrying out instructional improvement. This approach requires districts to provide additional supports to improve teaching, but also demands new roles and accountability for teachers. It is an approach to improving instruction that is more likely to attract and retain the highly capable people we want in teaching – and to help all teachers be more effective in the classroom. The remainder of this paper sketches the initial outlines of what this approach might look like in practice.

A starting place for building a district-wide infrastructure to improve high school instruction is clear expectations for high school instructional practice. Efforts should be grounded on clear, research-based premises about high school instruction that produces high student performance – and should then continually test those premises through research and evaluation. Premises about instruction must go beyond generalities; they should offer an explicit picture of effective instruction that communicates to teachers, students, administrators, parents and others what teaching and learning should look like. Such clear guidance on instructional practices coupled with clear academic achievement goals (discussed in the next section) provides the target towards which the rest of the work of improving instruction is aiming. (David and Shields 2001; Bransford, Brown and Cocking 1999; Connell and Broom 2004)

In general terms, visitors to high school classrooms should be able to observe teachers and students engaged in high-quality content, producing high-quality work, and learning

from and teaching each other. There are four core elements of these expectations:

- *The nature of the work.* The work observed should be rigorous and aligned to standards. The work of students and teachers is meaningful both within the course at hand and in terms of students' long-term development. The assignments, activities and products promote deeper learning, demand revision and reflection, illuminate linkages to the world of work and civic life, and require application to meaningful contexts. They reflect academic standards deemed important by the district and state and provide opportunities for all students to master the content and methods of the state assessments.
- *What students are doing.* Students are the primary workers in the classroom. Students work individually, in groups with other students, and with teachers. Students are engaged in meaningful work that is explicitly connected to prior work, and they also understand how their work fits into the particular course, their high school education and the larger world. Students are actively engaged behaviorally and emotionally, as well as cognitively. An examination of the products of students' work shows clear evidence of student learning, and students as well as teachers are knowledgeable about what constitutes good work. Students review their own performance data and understand how they are doing in the course. Over the course of their high school careers, students take on increasing responsibility for their own learning.
- *What teachers are doing.* Teachers use a variety of teaching formats to guide and support student learning, such as direct instruction; work in small, intentionally constructed groups; one-on-one work with students; and independent student work where students have access to teachers. The teaching being observed is obviously planned, knowledgeable and engaging to students. Lessons have clear introductions and closures, and reflect both individual planning and collective inquiry about students' learning. Teachers are comfortable with lesson design and materials they are using. Teachers monitor student learning and use data to inform their instruction and to differentiate instruction to assure that all students have the support they need to succeed.
- *The classroom norms.* High expectations for achievement and behavior, intellectual engagement and risk-taking, transparency and mutual respect are the core norms of behavior that obviously permeate all interactions between teachers and students. Students are citizens of their classroom with a corresponding voice in the affairs of the classroom and responsibility for abiding by classroom norms.

Component #4: Anchor Standards and Aligned Assessments that Support Effective Instruction

Clear expectations for high school instruction should be coupled with clear goals for student learning and effective ways of measuring progress towards those goals. The current structure of standards and assessments in most states and districts does not support effective high school instruction. First, high school standards are too vast, overwhelming

teachers and students with encyclopedic requirements and long lists of discrete topics that are not clearly linked to achieving college and career ready performance. The breadth of the standards results in teachers racing to cover material rather than teaching for depth of understanding, or selectively covering material based on individual preferences. Second, formal and informal high school assessments rarely demand meaningful evidence of student mastery of important content. Third, current assessment systems generally fail to provide a clear picture of ongoing progress compared to standards.

A district attempting to redesign standards and assessment to support high school instruction could address these challenges by developing "anchor standards" and an aligned assessment system that asks for meaningful evidence of student mastery of the anchor standards, provides a clear picture of ongoing progress towards mastery, and allows analysis of student growth and teacher performance.

Use anchor standards to distill encyclopedic standards and drive student learning and instruction

The idea of "anchor standards" means that states and districts would move from a long list of standards for each subject to a limited number of core standards that define the essential elements of what students must know in each discipline. Parsimonious anchor standards should reflect the essential knowledge that is required for the next level of learning and that is useful in multiple disciplines (for instance, writing and data analysis). The anchors must be sufficiently clear that students, parents and educators can grasp their meaning, understand what it takes to demonstrate proficiency, and engage in purposeful work.[1]

The anchors must also be sufficiently rigorous to prepare our students for college, upwardly mobile careers and successful lives. This will require a review of the American Diploma Project (Achieve 2004) and other sources, plus a gap analysis with current state standards and assessments. Graduation requirements and local college entrance requirements would then need to be aligned with these standards, which would require substantial collaboration with higher education.

Anchor standards should also build coherently on third through eighth grade work in similar subjects. At some point, a district or state would need to "backward map" this anchor structure that describes high school and graduation standards to the beginning of learning in the district in order to provide a vivid picture of how the disciplines grow. In addition, the anchors must be connected to the districts' instructional goals.

It is important to remember that anchor standards can be revised as a district clarifies its understanding of the disciplines and how they develop and how anchors in diverse domains relate to one another. The anchors can also be revised based on student performance data that reveals weaknesses and the anchors' instructional effectiveness. For example, results may demonstrate that there is insufficient coherence between grades. Or, as student performance grows, superior anchors may be required to stretch that performance to a higher level. The anchors are a centerpiece of the intellectual engagement of educators and students throughout the district.

Given that a district's anchors must align with state standards and assessments, developing anchors that fit the description above is challenging. However, depending on state context, districts can make substantial strides. Moreover,

district leaders can be advocates within their states for state standards (and aligned assessments) that are rigorous while also sufficiently parsimonious to support the focus and prioritization inherent in the notion of anchors. Current state policy efforts to align high school standards and assessments with the real expectations of colleges and the work force are an important start in developing effective anchor standards and assessments at the state and district levels. (Achieve 2005)

Build an assessment system aligned to the anchor standards

Anchor standards can be the basis of a system of assessments designed to improve instruction. Of course, assessments serve multiple purposes: to determine student mastery of standards for accountability purposes, to provide data on whether student learning is "on track" toward mastery, and to provide data on student learning and instructional processes that allow educators and students to understand what is working, for whom, and what needs to be changed. No single assessment can effectively serve all these purposes. (Stiggins 2004) This paper suggests a comprehensive assessment system that is aligned to the anchor standards. This system would include formal assessments (including large-scale state standardized tests, end-of-course exams and portfolios for graduation), interim benchmark tests and ongoing formative assessment embedded in classroom tests, and activities and student work.

Specifically, at the high school level, formal assessment would include end-of-course exams in the core disciplines that are aligned to the anchor standards. These formal assessments ideally would provide not only reliable overall scores for each subject but also reliable sub-scores at the anchor level. As part of a formal assessment system, students would be required also to produce a portfolio that demonstrates mastery of important and culminating anchor standards by the time they exit high school. The portfolio would supplement on-demand assessment with a substantial effort requiring perseverance, in-depth study in several disciplines, individual choice, applied learning, real world contexts and interdisciplinary connections. If portfolios are publicly examined by school and community members, the process not only helps students see the worth of their work but also helps parents and the community to better understand the high standards students are achieving.[2]

Another element of an effective assessment system is interim assessments of learning, such as end-of-unit tests that assess a subset of the anchors every few months, to gauge whether students are "on track." These should be able to predict performance on the end-of-course test.

In addition, a district should develop robust formative assessment practices that complement and align with formal interim and end of course tests. Classroom work, projects, quizzes or essays, homework, daily observations and even teacher questions are types of informal formative assessment that powerfully inform teachers and students about what students have and have not learned. With effective protocols and training, teachers can gain a level of assessment literacy such that their questioning, classroom and homework assignments, and informal observations of students are aligned with a clear sense of proficient performance, giving teachers and students clear feedback on what has been learned and aiding teachers in adjusting their instruction and students in adjusting their learning to reach proficiency. (Black and Wiliams 1998; Black and Wiliams 2004; Stiggins 2004; Symonds 2003)

Creating the system of high school assessment described here poses significant challenges and cautions about the quality and alignment of the assessments; the timeliness and usefulness of the data for instructional improvement; the capacity of schools, staff and students to make use of the data; and the amount of time devoted to testing. Nonetheless, the power of effective assessment practices to promote increased learning suggests that the challenge must be taken.

Component #5: Core Curriculum, Common Lessons and Tools Based on the Anchor Standards and Assessments

A district's instructional expectations, anchor standards and aligned assessments can provide a focus for classroom, school and district instructional improvement efforts. But, reflecting on the definition of professionalism under Component #1, how far beyond this infrastructure for standards-based reform should districts go in specifying specific strategies and tools for instruction? What is adequate support for the workforce, and what is over-prescription that cramps effective professional discretion? Below are thoughts on how a district might create an instructional program for high school improvement in which common curriculum and instructional tools are a platform for improvement and innovation and are also consistent with a robust vision of teacher professionalism.

Professionals need tools to do their work and a work context that allows them to evaluate and improve the effectiveness of their practice. (Cohen and Ball 2000) A primary tool is a core curriculum. An effective core high school curriculum would be aligned to the state standards and district anchors and assessment system and relate powerfully to the entrance requirements of college and universities. The curriculum would define essential content and student activities as well as those that are optional. For essential content and tasks, the curriculum would provide guidance on pacing. In addition, the curriculum would be clearly laid out and understandable to teachers and, at some level, to students, parents and community leaders. (Grossman and Thompson 2004)

A core curriculum is not an end in itself but rather a tool in service of larger goals. A core curriculum of this sort can enhance both excellence and equity. It grounds professional conversations and teacher work within and across schools. It helps educators see and internalize common expectations for student performance, increasing the likelihood that expectations, rigor and student outcomes are consistent for all students within and across schools. Moreover, in districts with highly mobile high school student populations, a core curriculum aids consistent academic progress and more equitable outcomes for students.

While a core or "spine" high school curriculum with the above characteristics is essential for instructional improvement, it alone does not provide a sufficient focus for deep and powerful efforts to improve instruction. One potentially powerful tool to support instructional improvement is common lessons. Because common lessons are perhaps the newest idea in this set of design specifications, this paper describes what these common lessons might look like and how they might function in some detail.

Create common lessons to ground improvement efforts

A district working with exemplary teachers would develop a small set of common lessons for each core content area and grade level that all teachers must teach. The required common lessons would be short (approximately one

class period) and use a relatively small amount of total instructional time (perhaps 10-20 percent or one or two classes every two weeks, depending on the district's needs). These common lessons would define both the content to be taught (processes, concepts and facts) and specific pedagogical practices to be used (for example, modeling, think aloud, inquiry protocol, close reading, questioning, cooperative small groups, project-based learning, etc.).

The common lessons are not discrete activities but rather embedded in larger units of study and in the core curriculum. Each common lesson has a sample unit map that indicates how teachers and students make meaning of the content while actively working toward a larger intellectually challenging product. Each core lesson includes a limited scope of permutations, detailing how to prepare students for and to extend the lesson (see Diagrams 1 and 2, developed by Julianna L. Kershen).

Diagram 1: Sample Unit Map

Grade 11 English/language arts Unit of Study: Critical Literary Analysis

Grade 11 English/language arts Core Lesson:

Close Reading and Annotation of "The Flowers" by Alice Walker applying a historical critical lens

Core Lesson Product: Literary Criticism Essay

Week 1	***Week 2***	***Week 3***	***Week 4***
○ introduce concept of "critical lens" ○ practice close reading ○ **core lesson "The Flowers"** ○ choose longer text for analytic reading using a historical critical lens	○ record thinking in response to reading ○ share beginning inferences about textual analysis using historical lens ○ begin to record theories about text using historical lens ○ begin to collect evidence in support of theories	○ refine theories based on classroom conversations ○ **core lesson "Sinners in the Hands of an Angry God" by Jonathon Edwards** ○ continue to collect evidence in support of refined theories ○ begin to collate and organize evidence around analytic assertions ○ write first draft of essay ○ review model of progressing student work ○ discuss individual work & model	○ continue drafting essay, revising for content ○ have revised essay peer and teacher reviewed ○ review model of exemplary student work, compare current draft to model ○ set revision goals ○ complete longer text ○ complete a revised draft ○ discuss grading rubric

Diagram 2: Sample Scope of Core Lesson Permutations

Grade 11 English/language arts Unit of Study: Critical Literary Analysis

Grade 11 English/language arts Core Lesson:

Close Reading and Annotation of "The Flowers" by Alice Walker applying a historical critical lens

Core Lesson Product: Literary Criticism Essay

Scaffolding Experiences	***Extensions***
• Anticipation guide which asks students to consider opinions and experiences related to injustice, shock, horror, confliction • Pre-teaching of target vocabulary words (words considered difficult for readers to discern even after applying contextual reading strategies) • Close reading/examination of Picasso's "Guernica" • Think/write/share: What is the history of lynching in the United States? • Close reading/examination of images of lynching, Tulsa Race Riots, Rodney King/LA riots, Emmett Till case • Think/write/share: What is innocence? How does a person come to lose their innocence? • Think/write/share: How have your past experiences shaped who you are today? Explain how you believe the past shapes both the present and the future.	• (Teacher may choose from the scaffolding list) • Extended Writing & Conversation Prompts: o How does Walker's use of diction create the tone of the narrative? Provide evidence to support your assertions. o Considering the larger historical context within which "The Flowers" is placed, what can you surmise to be Walker's purpose for writing the story? Provide evidence to support your assertions. o Imagine "The Flowers" was written for publication only overseas. Choose an intended audience and explain how they might interpret this text as a narrative representative of American history. • Complimentary Texts using Historical lens: o Autobiography of Malcolm X o Go Tell It on the Mountain o Their Eyes Were Watching God o Core lesson "Sinners in the Hands of an Angry God" o "The Crucible" o The Scarlet Letter o I Know Why the Caged Bird Sings o Hunger of Memory o Cry, the Beloved Country o Things Fall Apart

A critical element of the common lessons is their focus on the production of high-quality student work that helps both teachers and students evaluate their mastery of the standards. These, along with other high-quality student work tasks, can provide students a clearer sense of purpose in their studies. They also provide highly public and clear samples of student work for each anchor at each level of performance to guide educators, students, parents and the community.

Another critical element of the common lessons is that they can be designed to support achievement of anchor standards that are important for students' academic development in situations where student achievement is currently low and teacher knowledge and skills to boost achievement may be lagging. Thus, the common lessons and associated student tasks would be designed based on student performance data and teacher input. For example, to develop common lessons in Algebra I, district staff might identify the content domains and issues in algebra that pose the most difficulty for students and contribute most to the achievement gap. Based on this analysis, teachers, teacher leaders and district staff would develop common lessons. There might be at least one embedded formative assessment per marking period directly connected to the common lessons. There can be particular value in drawing the assessment from existing systems for which there is normative data (e.g., Mars, Agile Mind, Balanced Assessment).

The purpose of having a small core number of common lessons and student tasks is to provide a concrete and shared instructional foundation - both in content and pedagogy - for district improvement efforts. Common lessons and tasks focus energy, attention, time and teacher talk on important and rigorous content and student work and concrete and specific strategies for ensuring students achieve mastery of the content. The common lessons and tasks thus serve several functions.

First, they are the focus and fodder for professional discussions, data analysis and staff development throughout the district. For example, by analyzing student work resulting from common lessons, teachers and district staff can determine whether there are shared and commonly held high expectations for student work and whether grading aligns with formal assessment results. Similarly, grade level or department meetings can focus on specific strategies for teaching a particular novel or helping students master a specific scientific principle because all the teachers will be working with students on some common lessons and tasks.

Second, where there exists a substantial knowledge base about the content and practices that will enable students to master the standards, these lessons translate that knowledge base into concrete work for students and teachers, thus providing effective lessons and modeling characteristics of effective lessons.

Third, they are the foundation for continual focused innovation by school and district staff around revising the anchors, the assessments, the curriculum, and instructional supports. For example, teachers can share their experience with the lessons; teachers, schools and districts can analyze the effectiveness of various lessons and then modify them based on that data.

Finally, they present problems that teachers find worth solving and thus can galvanize both teachers' commitment to the work and changes in teacher practice. People in any field resist changing their practices unless they can see that change will lead to improved results on matters that are important to them. Common lessons present issues

that matter to teachers - student performance on important tasks - and a structured forum for seeing how changes in practice lead to improved results.

Common lessons, along with a common curriculum, are a particularly important support for new teachers who often struggle in their first years to develop curriculum and lesson plans as well as developing other classroom skills. However, because common lessons are a central vehicle for individual and collective improvement of instruction, accomplished teachers benefit from implementing them - both in improvements to their own practice and in the contributions they can make to improving the lessons and the work of their less accomplished peers.

Essential to the idea of common lessons is individual and collective improvement of instruction. Teachers are expected to deliver these common lessons, but the arbiter of success ultimately is student performance – not fidelity in delivering the lesson. Common lessons are not an end in themselves but rather a tool for achieving a larger goal. Thus, if exemplary teachers can show that other approaches lead to greater student success, those variations should be examined and, if found worthy, shared with other teachers.

These design specifications suggest that 10-20 percent of instructional time be allocated to common lessons. One might ask, if requiring 10 percent or 20 percent of lessons to be common is good, is not requiring 80 percent of lessons to be common even better? Obviously, the move in some districts to mandate highly scripted and tightly paced curricula is one approach to answering that question. However, there are several reasons why higher levels of prescription in the number of common high school lessons may not be effective today.

First, it is reasonable to tightly prescribe what teachers should do only when we know that what is prescribed is effective for students. In core high school content areas, no evidence base exists that would allow districts to prescribe with certainty a full set of common lessons that are guaranteed to improve student learning.

Second, given the trend toward differentiation in high schools – career academies, theme schools, etc. – and in the varied needs of different student groups, prescribing district-wide a high percentage of common lessons impedes schools' ability to address their core focus and their students' needs.

Third, if a teacher is not highly effective, a scripted curriculum may provide some useful supports but it will not make the teacher highly effective. This is because high school instruction is not the direct transmission of knowledge into the open minds of adolescents. Learning results from the constant and active interaction of student, content and teacher. Learning how to create that productive interaction requires teachers to know not just how to deliver lessons but why learning is occurring or not and for whom, and then how to adjust when needed. Teachers develop this expertise through developing their own lessons, trying different strategies, and modifying content and pedagogy to meet the needs and interests of the students in front of them. Thus, core lessons are only part of a larger instructional improvement plan which includes time for teachers to discuss instruction and performance, to practice routines, to compare and use protocols, etc.… Requiring wholesale implementation of a years' worth of lessons thus becomes counterproductive, both, in the longer term, regarding deep changes in teaching practice, and in the shorter term, risking overwhelming and alienating school staffs.

Finally, attracting highly capable teachers into the profession is difficult if teachers are not given the opportunity to exercise appropriate professional judgment, to teach content that is meaningful to them, and to give their students some voice and ownership of what is taught and how. If we want a profession in which teachers embrace the vision of professionalism described in Component #1, they must be treated as professionals in the execution of their practice.

Nonetheless, districts might well develop a large number of additional high-quality lessons. They could have in place repertoires of effective curricular units and teaching strategies by content area that incorporate what has been learned from demonstrably successful peers. These could be made available to teachers, and some might be required to be used by teachers who are not obtaining satisfactory student results.

Provide additional instructional tools

Beyond curriculum and common lessons, professionals need additional tools to improve their productivity and effectiveness. Tool development and selection can be a strategic approach to building knowledge and consensus around good instruction. The elements of the instructional infrastructure described thus far – anchor standards and assessments and common lessons – are themselves tools.

However, assisting teachers in improving instructional practice generally requires a broader array of concrete tools that guide and support teachers in their day-to-day tasks. For example, teachers can benefit from effective techniques, protocols, rubrics, curriculum materials, technology and data systems that increase their effectiveness in developing student tasks, engaging the interest and effort of their students, writing lesson plans, grading and analyzing student work, understanding and making use of student performance data, re-teaching for mastery, observing other teachers, deepening their content knowledge, expanding their repertoire of proven instructional strategies, and on and on.

Districts, using teams of teachers and other experts, can evaluate tools for student and teacher learning based on alignment with their expectations for instructional practice, their anchor standards and curriculum, the evidence base for effectiveness, a clear understanding of implementation challenges, and cost and cost-effectiveness. Based on these screenings, districts can provide schools and teachers with a menu of tools that meet the evaluation criteria. The degree of choice that schools and teachers have in selecting tools may vary depending on the context; for example, there might be a district-wide protocol for looking at high school student work if that is a centerpiece of professional development efforts but there might be several protocols available for peer observation that teacher teams might choose from depending on grade level, discipline area and interest. In some cases, where quality tools do not exist (and there is clearly a need for more tool development to support high school instruction), districts may want to develop tools themselves.

Regardless of the array of tools, the development, selection and implementation of tools is itself a vehicle for building knowledge and consensus around good instruction. Teachers should be involved in the development and selection processes. Then, once tools are selected, teachers will adapt those materials and instruction to their particular students and circumstances. At the school level and in subject-matter teams across schools, teachers should

have on-going opportunities to learn about these tools and how best to use them in their particular context.

Component #6: A System to Build Teacher Capacity

If a district has followed the argument thus far, it has considered developing clear guidance about the characteristics of effective instruction that should be seen in classrooms, developing anchor standards and assessments that exemplify those expectations and student learning goals, creating common lessons and student tasks that provide concrete direction around content and pedagogy as well as a shared body of experience and work, and finally selecting additional tools to support instructional improvement.

The concurrent challenge any district considering this set of design specifications must address is creating the professional culture and building the capacity of teachers to achieve these expectations every day in every high school classroom. Part of this capacity building work is described in Component #2, which laid out human resource strategies for recruiting highly capable people into teaching, effectively inducting them, and then rigorously evaluating teacher performance and rewarding and retaining only those who are able to produce student learning gains. Another element of building teacher capacity is the effective use of teacher expertise in the design of the instructional infrastructure. A third element is on-going professional development designed to – and ultimately evaluated on its ability to – increase teachers' efficacy.

Because so much has been written about effective professional development, this paper limits its focus to two knotty design issues specific to high school: (1) how to build on the strengths of both small learning communities and the discipline areas; and (2) how, in the high school context, to provide sufficient time for teachers to work with the right people under the right conditions.

Build on the strengths of both the small learning communities and the discipline areas

Traditionally, high school faculties are organized by departments and high school teachers feel a primary allegiance to their department and discipline area. High schools have sometimes failed to engage teachers sufficiently in taking ownership of their responsibilities for the overall development of individual and groups of students. Too often, students move from class to class experiencing high school as fragmented, incoherent and impersonal.

Addressing this widely perceived weakness of traditional comprehensive high schools, many current high school reform efforts have created small schools or small learning communities in which a small cadre of teachers know students well and share responsibility for the success of their students. These schools have often "blown up" the traditional departments, placed teachers in interdisciplinary teams, and fostered interdisciplinary teaching. However, evidence emerging from these small schools and small learning communities is that teachers – particularly, but not limited to, mathematics and science teachers – now feel the lack of a department and disciplinary peers with whom they can work to improve instruction in their content area. (AIR/SRI 2004, AIR/SRI 2005)

The challenge for high schools is then to create ways of teachers working and learning together that leverage the best attributes of small learning communities and the best

attributes of structures that build subject knowledge expertise. This suggests providing time for teachers in small learning communities to work together around the students they share and time for teachers in the discipline areas to work together around discipline-specific challenges in content and pedagogy. While doing so poses some formidable logistical and resource challenges, failure to do so leaves teachers without the supports they need for effective teaching.

Working together as a small learning community or small school faculty to examine student performance, student work and student engagement helps teachers strengthen engagement, alignment and rigor in their lesson planning and delivery. Teachers' vested interest in how their shared students perform provides a good reason for them to become vested in their colleagues' practice. Opportunities are created for teachers who share the same students to see those same students' work produced in different settings and thereby learning more about their students academically and personally. This activity can also help create space for exploring and developing cross-disciplinary projects to enhance student engagement and understanding intellectual and academic concepts. With regular common planning time available to each small learning community during the school day, as well as peer observation of classrooms in other small learning communities, dialogue and action planning can become part of the every day life of the school.

This should be complemented by time and support for every teacher to be a member of a subject matter community. These subject matter communities could be within schools, but might also go across schools, particularly where schools are quite small. The subject-matter communities' functions may include:

- to look at issues of vertical alignment;
- to develop common understanding of performance at grade level;
- to deepen teacher knowledge of essential subject matter content;
- to determine what must be re-taught that year and how to improve lessons for the following year;
- to select and develop expertise in using instructional resources and tools; and
- to solve particularly vexing instructional issues at grade level by analyzing and identifying strategies used in classrooms where students are performing at the highest levels, including issues around particular content, content pedagogy and needs of particular groups of learners in the content area.

Moreover, different content areas pose specific challenges and a district's instructional infrastructure and professional development investments must be attuned to those. For example, one of the challenges in English/Language Arts in low performing high schools is to improve the teaching of reading within the context of the curriculum. Most English teachers are not prepared to teach comprehension strategies as part of teaching literature. Drawing on the model of the Bay Area Writing Project, the English team in each school might select a member to become a reading resource person for the team. This person would participate in high-quality professional development in adolescent literacy to support the team. Their role would be to help their colleagues build focused instruction of reading skills in their lessons. They could also become part of a network of teacher leaders with expertise in adolescent reading.

Whether working with teachers in their

content area or with teachers in their small learning communities, teacher learning should be grounded in the districts' anchor standards and assessments, expectations about instructional practices, and common lessons and student tasks. This provides a powerful and robust engine to feed and make meaningful these professional development processes.

Provide sufficient time for teachers to work with the right people under the right conditions

Teacher learning in their content area and in their small learning community will be most effective if it is supported by the right people under the right conditions. Recent research suggests peer observation, dialogue and coaching are effective methods to improve instruction. While there are various configurations for deploying coaching expertise, one model at the high school level would be to organize coaching resources around teams of teachers in the same content area. Thus content teams might be supported by school-based coaches who are drawn from a cadre of accomplished teachers and staff developers. Coaches, who may be lead teachers who have a part-time class load, might work with all teachers in their discipline area in the school, facilitating staff development around the learning targets for the year, including leading discussions of student work, doing demonstration lessons, providing "at-elbow" coaching for teachers, curriculum planning with their colleagues, and work on instructional strategies during common planning time.

In addition, there could be a district level coach for each discipline whose primary responsibility is building the capacity of the lead teachers in that discipline across a number of schools. District capacity might also include district-based specialists in content specific literacy who support coaches, mentors and lead teachers.

Doing this work requires significant time for teachers and for instructional leaders. Scattered professional development days throughout the year are not sufficient to significantly improve instructional effectiveness of the current workforce. Common planning time, reduced class loads for teacher/coaches, and regular time for professional development built into the contracted day is essential.

Moreover, if coaches have optional 12-month contracts, they can work on common lessons and assessments, plan staff development, work with district and outside specialists to understand their content deeply so they can teach adults well, and develop expertise and repertoire that enables them to assist coaches and teachers who work with special education and ELL students. Coaches should be accountable for delivering on this sizable investment and should be evaluated based on improvement in student outcomes and rigorous examination of a portfolio of teacher and student work.

Implications and Next Steps

This paper has laid out an ambitious set of design specifications for a district-wide instructional improvement effort. Yet, as noted at the beginning, these specifications do not address some critical issues that any district seeking to do this work would have to confront. Three notable omissions from this paper – and from much of the high school reform conversation – are flagged here.

First is the role of students. While instruction is the interaction of teachers, students and curriculum, these design specifications focus primarily on teachers and content. In general, high schools have failed to sufficiently engage students as learners and leaders in their own schools and to expect real work and high levels of performance from them. These specifications do not consider relevant questions such as: What supports are needed for students? How can students best be enabled to take progressively more responsibility for their own learning? What changes are needed in how adults view and work with students?

Second is the connection of instructional improvement to the broad purposes of schooling: preparation for further education, civic participation, work, and satisfying and meaningful lives. How does instructional improvement in the core academic areas connect to these larger purposes? Preparation for life after high school takes place in the classroom, in extracurricular activities, in school activities that connect students to work, service and their communities, and in out-of-school settings. How should these experiences be connected? How can instruction be organized so that students see schooling as meaningful and as something at which they can succeed?

Third is the marshalling of resources needed to move forward on large-scale instructional improvement. Moving from the written page to district implementation would require new forms of school district capacity and an infusion of intellectual capital and new instructional resources. It would require substantial support for teachers and leaders across the system and qualified outside partners. Outside partners would include local institutions of higher education, technical assistance providers who can supplement the district's capacity to do this work and act as "critical friends" to the effort, and formative evaluators who can document the effort and provide insights for mid-course corrections. A district effort would require ongoing conversations with students, families and the community to develop public will to support these changes.

An effort of this sort also requires trade-offs and hard decisions about how to best focus resources. For example, should the district cut the traditional district central office budget to redirect resources toward instructional supports? How should the district balance resource allocation between the poorest performing high schools, which often have the least capacity to improve, and mid-performing schools where investments might spur rapid improvements? Could the district focus on teaching essential and rigorous core courses and create dual enrollment options with local community colleges for industry specific career and technical courses? How should the district audit its current professional development investments and invest going forward only in efforts aligned with current priorities and tied to accountability for results?

An effort of this sort would be appreciably easier to undertake in a supportive state setting. State policy in a broad range of areas will affect district work. These include the rigor and focus of state standards and assessments, the existence of anchor standards and assessments, professional development policies and funding, and accreditation and certification standards. An effort of this sort might also be aided if it is undertaken by consortia of districts. For example, if districts share anchor standards, they can share assessments, common lessons and the tools to increase their "buying power" or leverage to get higher quality and prices from providers. The districts can share research and innovation in refining the anchors. At the most ambitious level, the anchors and supporting tools can become the operating system that convenes the best work in high school reform and provides a platform for continual improvement and innovation.

Finally, an effort of this sort would also require sustained and difficult conversations among teachers and teacher organizations about the fundamental cultural issue of how teachers view their obligations and duties to their students, to each other and to the profession. Unless the profession addresses these issues, building the instructional infrastructure described here may lead to improvement but not to the radical transformations needed today. In fact, these suggested reforms might, like many before these, hit the wall of cultural and institutional resistance and inertia unless they are grounded in a new vision of teacher professionalism that supports instructional improvement

Despite these and other challenges, there is reason to be optimistic that these design components lay out a promising approach to high school instructional improvement. There are several urban districts that are testing out aspects of this work already. For example, Portland, Oregon, and Chicago, Illinois, are launching redesigns of high school instruction that build on many of the ideas here. If several districts were to embark on similar efforts, there could exist a network for learning about the implementation and improvement of these ideas and the development of the instructional tools to support them that could have significant potential for high school improvement in these districts and nationally.[3] Moreover, if states examined the state policy role in improving high school instruction and took on the policy challenges inherent in providing an effective state context to support the implementation of these design specifications, they might significantly accelerate reforms in their most challenging schools and districts.

Appendix A: 2005 Aspen Workshop Participants

Improving High School Teaching: The Toughest Nut to Crack?

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Notes

1. See the work of Douglas Reeves on "power standards" and explicit examples and Powerpoint presentations on the effort Pennsylvania has made in developing anchor standards and assessments at: http://www.pde.state.pa.us/a_and_t/site/default.asp?g=0&a_and_tNav=|630|&k12Nav=|1141|

2. For example, the Rhode Island Board of Regents requires students for graduation to demonstrate proficiency in core content knowledge and applied learning skills. Districts must choose two of four strategies for assessing applied learning: digital portfolio, exhibition, certificate of initial mastery or end of course assessments. For more information see www.ride.ri.gov/highschoolreform.

3. The Aspen Institute Education Program is supporting an initial set of efforts in this direction. As an outgrowth of its Urban Superintendents Network, the program has formed a "critical friends group" to offer strategic advice to Portland leadership as they undertake a high school transformation effort that reflects many of the ideas in this paper. In addition, in partnership with Achieve, Inc. and the University of Texas Charles A. Dana Center, Aspen is facilitating a cross-district effort that is testing out how the ideas around instructional improvement outlined here could be implemented in the context of Algebra I.

Other Publications of the Aspen Institute Education and Society Program

Strong Foundation - Evolving Challenges, 2006. This case study of urban education reform examines the extent of instructional improvement in the Boston Public Schools and identifies challenges the district must address to reach higher levels of performance.

The Cleveland Literacy System: A Comprehensive Approach To Changing Instructional Practice, 2005.
This report illustrates how one urban district has positioned formative assessment, linked to a clearly specified curriculum, as a key level in efforts to improve classroom practice and student learning.

Remaking Career and Technical Education for the 21st Century: What Role for High School Programs?, 2005, by Richard Kazis.
This report from JFF and the Aspen Institute's Education and Society Program summarizes what we know (and don't know) about the value of high school career-focused education--and it proposes a reform agenda for high school career and technical education.

Review of Selected High School Reform Strategies, 2005, by Jennifer Husbands and Stacy Beese.
This paper is a comprehensive overview of high school reform.

Coaching: A Strategy for Developing Instructional Capacity-Promises and Practicalities, 2003, by Barbara Neufeld and Dana Roper.
This paper reviews the research and describes what coaching is, what coaches do, the kinds of supports coaches need, and the potential benefits to both educators and students. Jointly published by the Aspen Institute and the Annenberg Institute for School Reform.

Rethinking High School: The Next Frontier For State Policymakers, 2003, by Patricia W. McNeil.
This report provides a useful comparison of four state high school reform efforts.

Transforming the American High School: New Directions for State and Local Policy, 2002, by Michael Cohen.
Developed in conjunction with Jobs for the Future, this report is an analysis of the implications for policy action required to transform American high schools.

Transforming American High Schools: Early Lessons and New Challenges, 2002, by Rob Reich.
This paper presents an overview of the conclusions and recommendations of three related Aspen workshops on transforming high school.

Mission Possible? Incremental and Radical Action Agenda for Transforming the American High School, 2001.
This report summarizes the outcome of the 2001 Aspen Workshop on the American High School.

Task of Transformation: The American High School in the New Century.
Summarizes the outcome of the 2000 Aspen Workshop on the American High School.

All publications are available at www.aspeninstitute.org/education

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